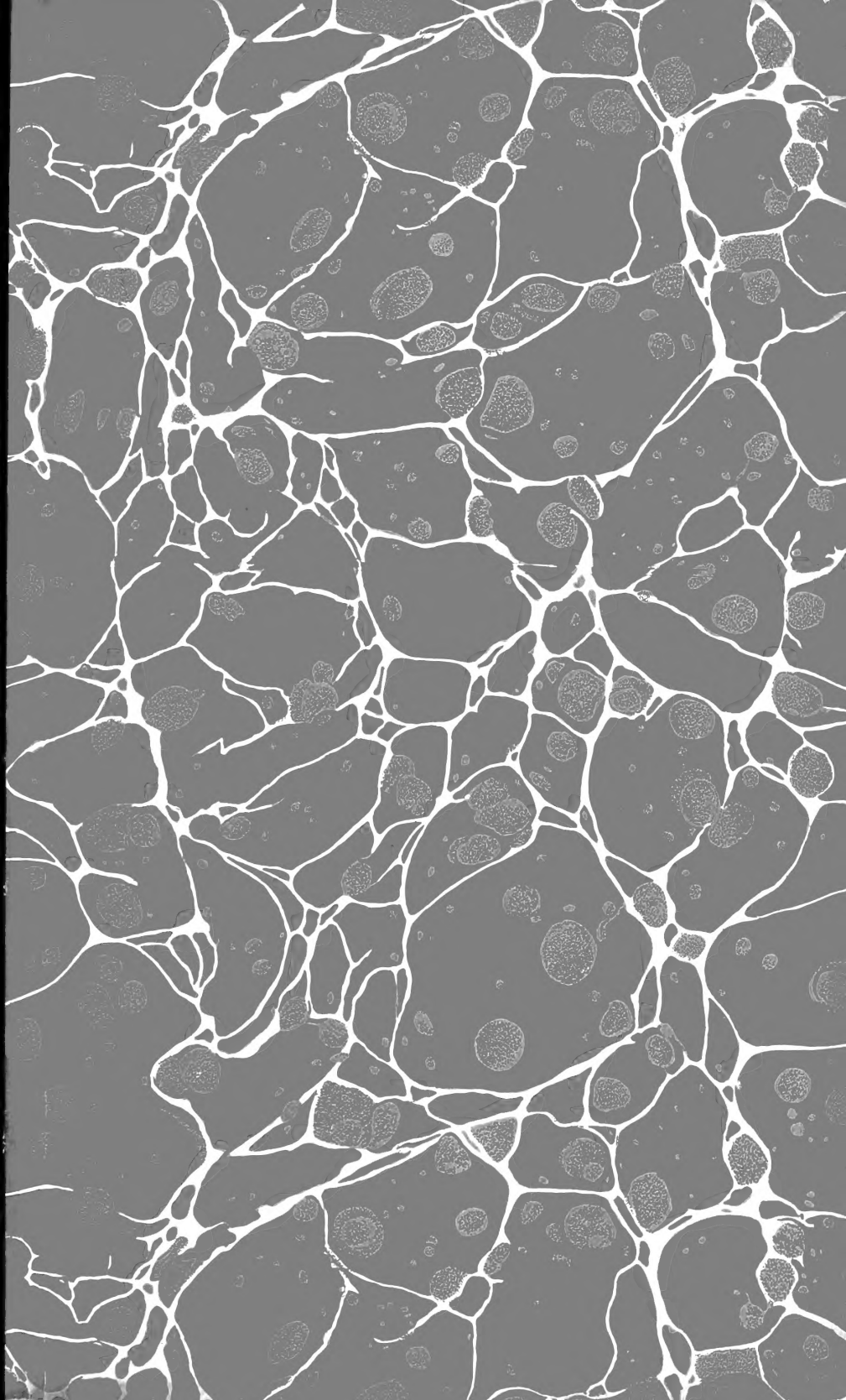

U. S. DEPARTMENT AGRICULTURE.

REPORT OF THE

CHIEF OF THE BUREAU OF BIOLOGICAL SURVEY

FOR

1912.

By HENRY W. HENSHAW.

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REPORT OF THE CHIEF OF THE BUREAU OF BIOLOGICAL SURVEY.

U. S. DEPARTMENT OF AGRICULTURE,
BUREAU OF BIOLOGICAL SURVEY,
Washington, D. C., August 24, 1912.

SIR: I have the honor to submit herewith a report on the work of the Biological Survey for the fiscal year ending June 30, 1912, with an outline of the work for 1913.

Respectfully,

HENRY W. HENSHAW,
Chief, Biological Survey.

Hon. JAMES WILSON,
Secretary of Agriculture.

WORK OF THE BIOLOGICAL SURVEY.

During the year the work of the Bureau of Biological Survey as usual was conducted along three lines: (1) Investigations of the food habits of North American birds and mammals in relation to agriculture; (2) biological investigations with special reference to the geographic distribution of native animals and plants; (3) supervision of national bird and mammal reservations, the preservation of our wild game, and the enforcement of the Lacey Act.

REARING OF FUR BEARERS.

The rearing of fur-bearing animals for their pelts continues to be a subject of much interest, and during the year many inquiries were received from various parts of the United States asking for publications on the subject and for information as to where to obtain breeding stock. In Prince Edward Island the breeding of black foxes appears to have passed the experimental stage and to have been established on a permanent commercial basis. The great demand for breeding animals and the reluctance with which successful breeders part with their stock, however, have caused very large prices to be placed on mature animals in the best pelage, and it is stated that as much as $8,000 has been paid for a pair of adult animals for breeding purposes. It is evident that as long as stock is held at such figures the business, even if remunerative, can not become general, but must remain in the hands of a very few. There are extensive regions in the United States, especially along our northern border and in Alaska, well adapted to fox farming and kindred industries, and wherever stock is obtainable at reasonable figures it is believed that the business can be made profitable.

BELGIAN HARE RAISING.

A furor for raising Belgian hares swept over the United States about 15 years ago and ceased almost as rapidly as it began, partly, no doubt, because it passed into a fad for raising fancy stock for exhibition purposes. Here and there, however, the business has persisted, and during the past year, partly, perhaps, as a result of the high price of meat, there have been numerous signs of awakening interest in the subject. The Belgian hare is prolific, easily raised, is little subject to disease when properly cared for, and its flesh is nutritious and of excellent flavor. There would thus seem to be no good reason why farmers and others having the necessary facilities should not engage in the occupation, both for the purpose of providing meat for home consumption and also for market. At 20 cents per pound, which the meat readily commands, there should be a safe margin of profit. With a view to answering the many letters of inquiry received by the Department in relation to methods of rearing Belgian hares, a circular letter was issued containing the essential facts in relation to the raising of these and other domesticated rabbits.

COOPERATIVE EXPERIMENTS WITH THE NATIONAL ZOOLOGICAL PARK IN MINK BREEDING.

First-quality mink skins at present market for from $3 to $8, according to size and condition. At these prices, which are not likely to diminish, the raising of these animals should be remunerative, especially in connection with some other established business, as farming, raising poultry, orcharding, etc. Comparatively few attempts to raise mink have been made in the United States, and at present little is known on the subject. Hence, in cooperation with the National Zoological Park, the initial steps have been taken in experimenting with these animals, with a view to determining the best kinds of pens, methods of feeding, and rearing. Later it is intended to embody the results of the experiments in a bulletin for the information of the public. Meantime, in response to the many requests for information relative to these animals, a short circular letter is being sent out, containing valuable hints on the subject of mink breeding.

PRAIRIE DOGS.

This is one of our largest and most destructive rodents, the daily forage consumed by 32 adults equaling the amount required by a sheep, while approximately 250 prairie dogs eat in a day about the same amount of forage as a cow. As the region infested by these pests includes a number of Rocky Mountain States and as some of the colonies occupy many thousand acres and aggregate millions of rodents, the extent of the damage they do both to forage and other farm crops can be readily comprehended. During the summer of 1911 preliminary experiments for the control of prairie dogs in cooperation with the Forest Service were made in the Pike and Cochetopa Forests of Colorado and Coconino Forest of Arizona. In April, 1912, the work was resumed, the chief reliance being placed on use

of poisoned grain, by which a majority of a colony are killed while feeding outside the burrows. As, however, in every colony there are a certain number which for one reason or another escape it is necessary, after poisoning operations, to treat with carbon bisulphid or pintsch oil the burrows still occupied. The efficiency of these two agents is about equal, but our experiments have shown that when pintsch oil is obtainable it is probably the cheaper of the two agents. It is worth noting that early in the spring snow can be employed effectively to stop up the burrows during the bisulphid or pintsch oil operations. These experiments have demonstrated also that oats are the best vehicle for carrying poison, as they are readily eaten by prairie dogs and are rarely eaten by birds.

THE CALIFORNIA GROUND SQUIRREL.

Smaller than the prairie dog, this rodent ranges over much of California, and thrives equally in mountain, foothill, and valley. It is a voracious feeder; and as its aggregate numbers are enormous, its capacity for destroying forage and crops is almost unlimited. While the complete extermination of the animal within the State may be long deferred by reason of the cost, a very material reduction of its numbers, at least in cultivated districts, can be effected at an expense which would be justifiable on purely economic grounds. The fact that this animal has been infected with plague by fleas from rats and that this dread disease is hence likely to become endemic in California furnishes a vastly more important reason for the destruction and one that bears directly on national health problems. Under the present State law requiring citizens to clear their holdings of squirrels, and through cooperation with the Public Health Service, much has been effected by State authorities, but the public domain within the National Forests remains practically untouched. A small fund having been made available, the Survey will begin the work of reducing the number of these rodents within the California National Forests. Meantime, during the past year experiments have been conducted with poisoned baits, so that it is believed a maximum amount of good can be accomplished with the funds placed at the disposal of the Survey at a minimum of cost.

GOPHERS.

Though comparatively small, the several species of gophers are difficult to destroy, owing to the fact that they live almost entirely underground. Numerous experiments have shown that these animals are not difficult to trap, but when employed on a large scale this method, though effective, is attended with considerable expense. Hitherto it has been found difficult to poison pocket gophers; but during the past winter many poisoning experiments were carried on with very promising results in California, where the animals are particularly destructive in truck farms and orchards. In many localities these animals were almost exterminated over considerable areas by the use of sweet potatoes covered with the strychnine-starch solution which has proved so effective in destroying prairie dogs.

RODENTS IN CONNECTION WITH REFORESTATION.

The destruction of small rodents like mice, gophers, and ground squirrels in and near tracts which are to be reforested proves to be a necessary corollary to this important work of the Forest Service, as otherwise the seeds are dug up and eaten or carried away almost as soon as planted. Under these circumstances the cost of reforestation is almost prohibitive of the work. Numerous experiments were tried during the year for the purpose of determining by what means and at what time of year the destruction of these mischievous rodents can best and most cheaply be effected. It was found that in the fall, when green feed (especially berries) is abundant, the putting out of poisoned bait avails little, as it is either untouched or is carried away and "cached" for later consumption. Hence, even when the actual planting is planned for fall, the destruction of rodents to be effective must be done in spring or early summer. Several poisoning experiments were carried on in the Cochetopa Forest to demonstrate the practicability of destroying the seed-eating rodents over tracts selected for reforestation. Four widely separated areas were successfully treated, so that a good stand of Douglas fir, lodgepole pine, and yellow pine was secured. Three baits were used: (1) Cracklings treated with powdered strychnine, (2) wheat coated with tallow and strychnine, and (3) oats treated with starch and strychnine. The tallow-coated grain was found effective when the baits were exposed to rain, while the starch-coated and cracklings preparations were effective when placed under logs and other protected places. Similar experiments were carried on also in the Cabinet and Lo Lo Forests of Montana.

RELATION OF NATIVE MAMMALS TO SPOTTED FEVER.

For the past two years investigations have been made by the Biological Survey in cooperation with the Bureau of Entomology and the agricultural experiment station of Montana with a view to ascertaining the particular species of wild mammals which act as hosts of the ticks that are believed to be directly responsible for the transmission of spotted fever. Among other important facts brought out by the investigations, it has been definitely ascertained that the fever ticks in the two younger stages live almost wholly on small native rodents. As the same rodents are responsible for extensive damage to crops in Montana and elsewhere, there are thus two important reasons for attempting their extermination, at least in the near vicinity of ranches. Here the ticks are readily transmitted to domestic animals, upon which they pass the later stages of their existence, when they are capable of transmitting the fever to human beings. A bulletin has been prepared, therefore, and distributed largely in Montana, describing the methods of poisoning and trapping rodents which have proved most efficacious in destroying these animals.

MOLES.

Though small and rarely seen because of its underground life, the mole is the subject of frequent and anxious inquiry on the part of farmers and others to whom the mammal is obnoxious chiefly because

of the injury it does to lawns and the supposed injury it does to potatoes and other root crops. The latter destruction is, in the vast majority of cases, the work of a very different mammal, the field or meadow mouse, which utilizes the tunnels made by the mole to facilitate its attacks on potatoes, bulbs, and other underground crops.

As attempts to poison moles almost invariably fail because the animal lives chiefly upon insects, experiments have been made during the past year with a variety of traps. Since none of the traps already on the market proved entirely satisfactory a new trap has been devised, for which a patent has been applied for in the name of the Biological Survey, which it is believed will largely solve the problem and afford farmers, lawn owners, and others the means of getting rid of these little mammals easily and cheaply.

BIRD ENEMIES OF THE ALFALFA WEEVIL.

As is well known, the alfalfa weevil, a very destructive insect probably imported from Europe, has become firmly established in Utah, in which State it is doing much damage and from which it threatens to invade contiguous States, with disastrous results to the important alfalfa industry. In cooperation with the Bureau of Entomology the Biological Survey is engaged in investigating the relations of birds to the insect to determine what aid, if any, birds are likely to lend in checking the increase of the weevil and retarding its spread. It is interesting to note that, although the weevil has been established in its new home probably only 5 or 6 years, 31 species of birds have already learned to eat it, and that during the summer it forms nearly one-fifth of their food. It is of interest to note, also, that the English sparrow, which in most parts of the United States is a pest, heads the list as a determined foe of the weevil and feeds its nestlings largely on it. Thus, 170 larvæ of the weevil were found in the stomach of a single nestling. If further investigations to be made in 1912 confirm these results, it may prove advantageous to encourage the breeding of the English sparrow around alfalfa fields by putting up boxes to serve as nesting sites. If it is possible to utilize the services of the English sparrow against this formidable insect foe, the alfalfa weevil, it will be part compensation for the damage done by the bird in other sections.

RELATION OF BIRDS TO THE BOLL WEEVIL.

Several years ago the Biological Survey made a careful examination in Texas of the relation of birds to the boll weevil and published the results. It was shown that birds prey upon the insect while it is hibernating, while on the cotton plants, and during its autumnal migration flight, which is the period when the weevil chiefly extends its range. Similar investigations are being carried on in the territory more recently infested by the boll weevil, especially in Alabama and Mississippi.

BIRDS IN RELATION TO CHESTNUT-BARK DISEASE.

The chestnut-bark disease was introduced into the United States several years ago, has spread into 10 or more States, and will probably continue its progress indefinitely unless means be found to check

it. The fungus parasite which causes the disease reproduces by microscopic spores. As these are unprovided with means of locomotion their manner of dispersal, whether by the aid of insects, birds, mammals, or wind, becomes a subject of practical importance as well of scientific interest. It has been assumed that as these spores in certain stages of their development are viscid they may readily become attached to the bill and feet of tree-frequenting birds, and to the feet of certain mammals (like squirrels), and in this manner be transported from one tree to another—even to considerable distances. Some currency indeed has been given to a statement that the spores are spread extensively by birds, especially woodpeckers. Although from their nature it is probable enough that birds and squirrels may aid in distributing the spores, at the present time definite proof is wanting and as yet no direct attempts appear to have been made by means of field observations or otherwise to learn the part played by birds and mammals in distributing the spores. If funds permit, an attempt will be made to ascertain how far birds are concerned in the transportation from tree to tree and from place to place of the chestnut-blight spores.

THE ENGLISH SPARROW.

Introduced into the United States about 1850, the English sparrow has spread over most of the United States, and almost everywhere it has proved a nuisance. It is objectionable about buildings because of its noise and filthiness; it destroys large quantities of grain and small fruit; it is wonderfully prolific and by reason of its numbers and pugnacity it has succeeded in destroying or driving away from the neighborhood of cities and villages many of our small insectivorous birds. It is also cunning and suspicious and very difficult to destroy. During the year attempts have been made to devise a sparrow trap by means of which numbers of the little pest can be trapped at one time and the colonies in a given locality be permanently reduced. It is believed that the problem has been solved, and a bulletin has been published describing the trap, which is of such simple construction that it can be made by every farmer who is provided with the necessary tools and material.

Sparrows have been found to be excellent food and indeed are not infrequently served in restaurants under the name of reed birds. It is strongly recommended, therefore, that in localities where sparrows are too numerous they be trapped for table use, thus utilizing for food a bird which in many places has come to be both a public and a private nuisance.

COOPERATIVE WORK ON THE FOOD OF BIRDS.

As usual, one of the principal features of the work of the bureau during the year was the examination of bird stomachs, which proceeds as rapidly as possible with the present small force. The importance of this work is very great, as it is the only reliable means of obtaining accurate evidence as to the food of birds. By means of a careful analysis of the stomach contents the several species of our American birds are being classified as insect eaters, fruit eaters, seed eaters, etc.; and the ratios also of the component parts of the diet are

being tabulated. Thus their relations to agriculture and horticulture are easily stated, whether beneficial or injurious, and approximately the extent of the good or harm they do. Besides examinations of special groups of birds on which the Biological Survey is preparing reports, the work includes the examination of small collections made by request of State officials. During the year the following investigations of this character have been made:

A large series of stomachs of the marsh hawk was examined for the Commission of Fisheries and Game of Massachusetts. These birds were collected near the heath hen preserve on Marthas Vineyard and were found to have fed largely on birds, including some heath hens. The marsh hawk in most regions rarely molests birds, but feeds chiefly on mice and other small rodents. On Cape Cod, Massachusetts, however, the marsh hawk lives to a considerable extent on poultry and small birds and hence must be classed locally as a harmful species.

An effort having been made to remove protection from gulls in Louisiana, a correspondent of the Biological Survey who is interested in protecting these birds sent up a series of stomachs of Franklin's gull in order that definite proof might be had of the bird's economic relations. The food was found to be almost exclusively insectivorous and the bird therefore beneficial.

A number of birds taken in midwinter on Staten Island were examined for the Staten Island Association of Arts and Sciences.

The stomach contents of several Cape May warblers were examined for a member of the West Virginia Experiment Station. The birds were puncturing grapes when shot and information was wanted as to whether they were feeding upon any insect enemies of the grape. Their trait of injuring grapes is in evidence only during a very small proportion of the year. At times the birds are almost exclusively insectivorous.

Other work of the same general nature included the examination of a small collection of duck stomachs from Indian River, Florida, in connection with recommendations to a shooting club in that vicinity regarding plants to be used for attracting ducks.

Some stomachs of horned toads were examined for the Bureau of Entomology in order to learn the relation of these animals to the injurious false wireworms of the Northwestern States.

COOPERATION WITH THE ISLAND OF PORTO RICO.

During the year a request was received from the board of agriculture of the island of Porto Rico for cooperation in an investigation of the bird life of the island with a view of ascertaining the part played by the species native to the island in the destruction of insects inimical to crops. Accordingly an assistant of the Survey was detailed to make the necessary investigation, the expense incident to the work being borne in large part by the department of agriculture of the island. The work is now well under way and from facts already ascertained it appears that the island is deficient in insect-eating birds. Unfortunately the presence of the mongoose in Porto Rico, where it was imported years ago to destroy the cane-eating rats, greatly complicates the situation. It has already destroyed most of

the ground-building birds native to the island and those that build in low shrubs, and hence greatly restricts the list of beneficial birds that otherwise might be introduced. The investigations in relation to the birds of Porto Rico will be continued until their habits, especially their economic relations, are thoroughly understood, and later a report will be issued based on the data obtained, with such recommendation as the facts seem to call for.

FOOD OF WILD FOWL.

In continuation of the investigations of the food of wild ducks, an assistant examined duck stomachs obtained in various parts of the country throughout the year and made a trip to important ducking grounds in Arkansas. The trip was made in early summer, at the height of the vegetative season, in order to definitely identify certain vegetable products found in the stomachs of ducks from that locality.

PLANTS TO ATTRACT BIRDS.

The Survey has published a paper on plants useful to attract birds and protect fruit, and continues to gather data on the fruiting season of plants. It is planned to issue circulars which will enable persons in various parts of the country to select such fruit-bearing trees and shrubs as will furnish as nearly as possible a continuous supply of fruit for birds the year round. In pursuance of this work the collections of the New York and St. Louis botanical gardens were consulted and data recorded regarding the locality and season of collecting of all specimens of selected genera of important bird foods which have ripe fruit.

ECONOMIC RELATIONS OF THE CROW.

Seventeen years having elapsed since the publication of a bulletin on the economic relations of the crow, and as at present there is a wide difference of opinion as to the bird's economic status, it was decided that a thorough investigation of the habits of the bird was advisable. To this end a circular requesting information on the relation of the bird to game and wild birds and farm products was widely distributed, and a very large number of replies was received. In addition, special effort was made to increase the number of crow stomachs for examination. In connection with the report on the common crow, the economic relations of the other crows, ravens, and jays of the same family will receive careful consideration.

FOOD OF COMMON BIRDS.

A Farmers' Bulletin entitled "Some Common Birds in Relation to Agriculture," which was prepared by Prof. F. E. L. Beal, of the Biological Survey, many years ago, has always been in great demand. Over a half million copies have been distributed. In order to furnish additional literature of the same nature, the Survey has prepared during the year two other Farmers' Bulletins on familiar species of

birds. One of these deals with some common game, aquatic, and rapacious birds in relation to man, and the other treats of the common birds of the forest, field, and garden.

FOOD OF FLYCATCHERS, THRUSHES, AND MEADOWLARKS.

A bulletin on the food of flycatchers, which has been in preparation during the past year, has been published. Stomach examinations for a bulletin on the thrushes, robins, and bluebirds have been completed, and preparation of a manuscript upon these birds is in progress. A very complete study of the food habits of meadowlarks also has been written and is ready for publication.

EUROPEAN STARLING.

Introduced into this country perhaps 20 years ago, the starling has made a place for itself among our native birds, partly by usurping their nesting sites and driving the smaller species away; and it is now rapidly spreading, radiating out from the original localities where introduced. From the experience of other countries into which the starling has been imported, there is reason to fear that the bird may do much damage to food crops, particularly as in fall it has the habit of assembling in flocks numbering thousands of individuals. As its food habits in this country are not well understood, special effort is being made to obtain as many stomachs as possible for examination, so as to insure early issuance of a report on the subject.

BIRDS OF ALABAMA.

As the boll weevil in its advance eastward has reached the State of Alabama and as no list of the birds of this State has ever been published, it seemed important as a preliminary step to further investigations into the relations of birds to the boll weevil in Alabama to ascertain the number of species resident in and visiting the State, either as migrants or as winter residents, and their relative abundance. Accordingly two assistants of the Biological Survey spent several months in the preliminary field investigations necessary to the preparation of a list of the birds of the State and in ascertaining their general economic value and relations. Satisfactory progress has been made in the work, and the list is now being prepared for publication and will be issued with illustrations of certain species important from the economic point of view, especially in relation to the boll weevil.

BIOLOGICAL INVESTIGATIONS.

Field work was continued during the year in Alabama, California, Idaho, Louisiana, and Wyoming, and was begun in North Dakota and Wisconsin.

The practical value of a biological survey of individual States as an important aid in the development of scientific agriculture is becoming more and more appreciated. Reports covering two States—Texas and Colorado—have already been published, with maps showing the life zones, and these are in great demand. As evidence of

the growing interest in this work may be cited requests from officials of Alabama, North Dakota, Nebraska, and Iowa for cooperation in a biological survey of these States.

Field work in Alabama has been undertaken and a report upon the life zones of the State is being prepared which will be accompanied by a map showing the life areas and detailed reports on the bird and mammal life of the State and its relation to agriculture.

For several years requests have been received for cooperation with the State University and State Agricultural College of North Dakota in a biological survey of the State, with special reference to a study of its bird and mammal life and their relations to agriculture. By the plan of cooperation arranged the Biological Survey and the State are to share equally in the expenses of field work and in preparing final reports. Field parties of the Biological Survey began work in the spring of 1912, but owing to lack of funds the work will be suspended after June 30. It is hoped that means will be provided for the resumption of this work the next fiscal year.

Requests for cooperation in a biological survey of Iowa and Nebraska have been received and work in those States will be inaugurated as soon as appropriations are available.

Field work which was conducted in Mississippi and Louisiana for several seasons was temporarily suspended. It is intended to resume work in the two States named in the near future should funds be available.

In the fall of 1911 a little field work was done in previously unvisited parts of California.

Field work in Wyoming has been actively pushed and would have been completed during the summer of 1912 but for the necessity of suspending field work on June 30. A few months of additional work will complete the survey of that State, when final reports can be published.

In Idaho field work was continued during the summer of 1911 from the Snake River to the Wyoming line, and up to June 30 of the present season was continued in the central mountain valleys, where the distribution of the ground squirrels and chipmunks and their relations to agriculture were studied.

The final report upon the life zones of New Mexico, with a map, has been completed and is ready for publication.

The report on the birds of Texas is still in course of preparation and is making good progress.

A bulletin on the herons of North America, giving their distribution and migration, is ready for publication. Another bulletin, on the rails of North America, covering similar ground, has also been prepared and is ready for publication. A new and revised edition of a bulletin on the distribution and migration of North American shore birds has been prepared and published during the year. These bulletins are of great value in connection with the enforcement of the Lacey Act and aid in the preparation of game laws, both Federal and State.

A vast amount of valuable data has been gathered during the year from correspondents and from literature concerning the birds and mammals of North America. Good progress has been made also in mapping the distribution of both birds and mammals.

One of the most useful activities of this section of the survey is the identification of birds and mammals sent from public institutions and from individuals engaged in studying them and their relations to agriculture throughout the country.

Cooperation in the biological survey of the Canal Zone being conducted by joint cooperation of the Smithsonian Institution, Department of Agriculture, and War Department continues, and a valuable collection of birds and mammals is being secured, with more valuable data on habits and distribution.

The summer and fall of 1911 E. W. Nelson continued the biological survey of Arizona and made a special effort to secure accurate information concerning the big game resources of that State. A trip was made in the fall in southern California to secure information concerning the distribution and abundance of ground squirrels and to ascertain how successful had been the efforts of the State authorities to exterminate them. Work was continued on the report upon Lower California, which nears completion.

A vast amount of information concerning the bird and mammal life of the United States has been gathered by this section, and this is of great value in connection with the efforts being made to protect and encourage useful and harmless species and to eliminate injurious ones.

IMPORTATIONS.

1911

Supervision of the importation of birds and other animals required by law has been maintained, and 583 permits were issued and 140 consignments inspected by the regular inspectors of the Biological Survey stationed at New York, Philadelphia, and San Francisco, as compared with 519 permits and 123 inspections in 1911. Under these permits there have been imported 428,269 birds and 4,582 mammals. Of these birds there were 338,275 canaries, 15,409 pheasants, 23,181 partridges, 11,353 miscellaneous game birds, and 40,051 miscellaneous nongame birds. Besides these, 28,808 birds and 875 mammals requiring no permits were admitted to entry, making a total of 362,604 canaries, 15,412 pheasants, 23,181 partridges, 11,493 miscellaneous game birds, 44,387 nongame birds, and 5,457 mammals. Fifty-five permits were issued at Honolulu covering the entry of 124 birds, 17 mammals, and 10 reptiles.

Among the birds were 23,181 European partridges, as compared with 36,507 in 1911. This bird has not proved as popular as it did several years ago, and has been purchased in smaller numbers by State commissions and private individuals. The importation of quail from Mexico reached 7,570, as compared with 3,110 in 1911 and 1,246 in 1910. This number might have been much larger but for the suspension in the issue of permits early in February owing to an outbreak of the highly infectious quail disease in the Southwest and the practical cessation of all interstate shipments of quail after that date. Among the rarer waterfowl were some 250 Formosan teal. These birds were first imported into the United States in 1909, but the number brought in during the past fiscal year considerably exceeds that of preceding years. Interesting also was a shipment of 16 California valley quail, imported from Austria. These birds, like wood ducks and other native species, have been sent

abroad, where they are raised in captivity and are now being reimported.

Among the miscellaneous nongame birds was one Imperial Amazon parrot (*Amazona imperialis*) imported from Dominica for the New York Zoological Park. This very rare parrot is almost extinct, and the specimen which arrived on February 19, 1912, is apparently the first that has been imported alive into the United States. The shama thrush continues in popularity as a substitute for the mocking bird, as shown by the fact that more than 200 were brought in during the year. Rare birds imported for the first time included several East Indian species, most of which were consigned to the New York Zoological Park. Among the rarer mammals was a female gorilla, received by the park on September 23, 1911, which only lived until October 5. By far the larger number of mammals were guinea pigs and monkeys, imported for laboratory and pathological experiments. About half the squirrels imported are the European red squirrel, and the remainder are chiefly Mexican species. There were also about 1,300 white mice, intended chiefly for research purposes, a few silver and cross foxes, several beavers, and a number of ferrets. The foxes and beavers come from Canada, the former imported for breeding purposes, the latter for exhibition, while the ferrets are imported chiefly for killing rats.

No prohibited species, so far as known, have gained entry during the year. Under date of July 10, 1911, the director of the New York Zoological Park ordered the destruction of the female mongooses belonging to the park, leaving 3 males. One of the latter died in March, and on June 2, 1912, the other two were still on exhibition.

Work on the consolidated index of importations was continued as far as possible, and the index is now complete down to the end of the year 1909.

PENGUIN EGGS.

Attempts are made from time to time to import eggs of certain birds, especially those of lapwings, for market purposes. This year an effort was made to open up a new source of supply by importing the eggs of penguins from South Africa. Under paragraph 560 of the tariff act, which prohibits the entry of eggs of wild birds not intended for propagation, the Secretary of the Treasury on March 29, 1912, instructed the collector of customs at the port of New York to refuse entry to a shipment of penguin eggs from Cape Town. Doubtless the close supervision exercised at ports of entry will tend to discourage similar shipments in future. Advantage was taken of this incident to obtain from the department of agriculture of the Union of South Africa information regarding the traffic in these eggs. It appears that the jackass penguin (*Spheniscus demersus*) breeds in large numbers on certain small islands on the west coast of Cape Province, in the vicinity of St. Helena and Saldanha Bays, and also on the islands off the coast of German southwest Africa. All of these islands are British possessions, and the birds are carefully preserved on account of their economic value. Large quantities of guano, aggregating some 6,000 tons per annum, are collected by the department of agriculture and sold to the farmers, and the collection of eggs is regulated under contract.

QUAIL DISEASE.

The importance of regulating the importation of foreign birds was exemplified in a striking manner during the past season at the time of an outbreak of a highly infectious quail disease (*Colibacillosis tetraonidarum*). This disease spreads with great rapidity. When it was originally discovered by the Bureau of Animal Industry in 1907, large shipments of birds were being made from the West and Southwest. The infection was carried from central Alabama and southern Kansas northeastward to many points, even as far as Nova Scotia, and attempts to check it proved of little avail. During the present year, on account of the scarcity of birds, nearly all the stock used for propagating purposes was imported from Mexico, and such shipments came directly under the control of this department. Immediately upon the discovery of the disease in February all shipments from Mexico were suspended and prompt information concerning the danger of infection was furnished to importers and shippers, with the result that the disease was discovered in only five or six places—in Missouri, District of Columbia, New Jersey, New York, and Connecticut—and so far as could be ascertained did not spread beyond these points.

NATIONAL BIRD RESERVATIONS.

The national bird reservations now number 56, including the Pribilof Reservation, which is in charge of the Department of Commerce and Labor. Four new reservations were created during the year: Forrester Island and Hazy Islands, in Alaska; Niobrara, on the old Fort Niobrara Military Reservation in Nebraska; and Green Bay, in Wisconsin.

The administration of the reservations was better organized by the appointment of inspectors for four districts: One for the Gulf district; one for the reservations in Oregon, California, and eastern Washington; one for the reservations on the coast of Washington; and one for the mountain district. In addition a warden was appointed for Clear Lake Reservation, Cal., and special agents were detailed to inspect the reservations in Bellefourche, S. Dak.; Carlsbad, N. Mex.; the southern reservations in Florida; and Forrester Island, Alaska.

As in former years, permits were issued to trap on two of the Oregon reservations, and the following fur-bearing animals were taken: On Klamath Lake, 124 mink, 10 skunks, 11 weasels, 1 otter, 12 raccoons, and 6 coyotes; and on the Malheur Reservation, 4,858 muskrats, 70 mink, 3 skunks, 2 otters, and 15 coyotes.

During the year the birds on the Florida reservations suffered considerably from severe storms. At Passage Key about 700 nests and eggs were destroyed. On Pelican Island most of the young birds and eggs of the first nesting were lost, and practically all the old birds left the reservation during a bad storm in January, returning, however, in full force later on. Information received in the spring indicated that the reservations were in excellent condition and had fully recovered from their losses.

No species has ever been introduced on any of the bird reservations, with the exception of the European rabbit on Farallon Islands, Cal.,

and Laysan Island, Hawaii. In both cases they have increased enormously, and efforts will be made to reduce them, as they are already becoming a serious pest.

The following notes on some of the more important reservations show varied conditions under which the birds are protected:

Belle Fourche, S. Dak.—Educational work was carried on quite extensively in this vicinity, and prizes were offered for the best essays on birds submitted by the school children in the county. On April 19 Bird Day was observed for the first time in the schools at Belle Fourche, and our inspector cooperated with the teachers in arousing an interest in the study and protection of birds. Sentiment in favor of the reservation is increasing, and, although there is no regular warden at this point, few attempts are made to violate the regulations, and most of the residents seem to be in favor of stopping spring shooting. On account of the isolated situation of the lake it will be necessary to have a resident warden for at least three months during the hunting season. This is a great refuge for waterfowl and is practically the only place in the county where there are spring ducks. When the project is completed the reservoir will have a water surface of some 8,200 acres and may become an important breeding place for ducks. Its importance as a refuge for migratory birds in spring and fall has already been demonstrated.

Breton Island, La.—Reports show that the birds are steadily increasing and comprise several thousand laughing gulls, brown pelicans, royal terns, and skimmers. No ducks nest on the reservation, but they collect in countless numbers before migrating to the north, so that the reservation serves as an important refuge for the ducks which winter in the Delta region of the Mississippi River.

Clear Lake, Cal.—The limits of this reservation were reduced during the past year to eliminate the dam and the keeper's house, but the area excluded was so small that it in no way affected the value of the reservation. With the completion of the dam the water of the lake has risen more than 10 feet. With its 55 miles of shore line the reservation is a great breeding place for waterfowl, including hundreds of geese and ducks, gulls, and western grebes. Many sage hens and a few white herons are also to be seen.

Cold Springs, Oreg.—No regular warden has yet been appointed, but public feeling is in favor of the reservation, and the hunters in the vicinity have volunteered to use their influence in seeing that the birds are protected. One flagrant violation of the reservation law resulted in several arrests for shooting waterfowl. No indictments were secured, but so much publicity was given the matter that no further trouble is anticipated. From September to May thousands of ducks and geese stop at the reservation, and the geese remain in large numbers all through the winter.

Deer Flat, Idaho.—On account of the hard winter and late spring there was practically no spring shooting about the reservation. So far a volunteer warden has looked after the birds; but as this is rapidly becoming an important nesting ground for waterfowl, a resident warden will be appointed to see that the regulations are properly enforced. As the lake is becoming quite a popular summer resort and numerous boats and launches are operated, regulations

were framed, in cooperation with the Reclamation Service, governing the running of boats, placing of wharves, and possession of firearms.

Forrester Island, Alaska.—This new reservation in Alaska, in the Tongass National Forest, has long been the breeding place of various kinds of sea fowl, including the rhinoceros auklet, Cassin's auklet, tufted puffins, murres, and gulls. It has been the custom of the Indians and fishermen to gather vast quantities of the eggs of these birds. During the nesting season a warden will be stationed at Forrester Island to see that the birds are not unduly molested. The Forest Service is cooperating actively in protecting these Alaska reservations.

Hawaiian Reservation.—Laysan Island has recovered somewhat from the devastation wrought by plume hunters in 1910, but the colonies are still in a sadly reduced condition. Rabbits are increasing with astonishing rapidity, and something must be done to check them, or most, if not all, vegetation on the island will soon be destroyed and the land birds necessarily exterminated. One of the rarest wild ducks in the world, the Laysan teal, is still present in small numbers on the island, and it is hoped that with care it will increase and become abundant. Enormous colonies of Laysan and black-footed albatrosses are found on Laysan Island and Lysianski Island, as well as petrels of several species, noddy and sooty terns, and a few Pacific white terns. There are now about 2,000 Laysan rails, a bird which is particularly interesting, as, like the Laysan teal, it occurs only on this island. Through the cooperation of the Revenue-Cutter Service the *Thetis* visited the reservation twice during the year and reported everything in good condition. If semiannual visits can be made to the reservation by some vessel the birds will not be molested, since under such an arrangement poaching would hardly prove profitable.

Klamath Lake, Oreg.—The nesting season of 1911 on the whole was good, although there was a marked decrease in the number of Canada geese. Ducks have held their own, but have decreased considerably in the surrounding country, due to more hunting than usual, early opening of the hunting season, and the large bags allowed. The number of ducks on the reservation is roughly estimated at 10,000. The regulations were generally respected, owing to the activity of the warden. Four arrests were made for having game illegally in possession. Disastrous tule fires occurred during March, which proved very destructive to the nesting grounds, as well as to the fur-bearing animals on the reservation. In order to patrol the reservation and to keep track of the boats which are allowed to run on the lake, a 28-foot launch was provided for the warden. A few tracts of land in the southern part of the reservation which were more valuable for agricultural purposes than for breeding grounds were eliminated during the year and were thrown open to entry.

Malheur, Oreg.—The birds on the reservation were slightly less in number than last season, due to the scarcity of water. Nineteen egrets were seen nesting with a colony of blue and night herons. These birds have not been accustomed to nest on the reservation, although there has been a small colony some 15 miles west. On

April 10 the pelicans began to arrive, and the birds represented on the reservation included mallards, widgeon, sprig, teal, Canada geese, blue herons, night herons, cormorants, grebes, pelicans, gulls, terns, coots, killdeer, avocets, and bitterns. Some trouble was experienced on account of the setting of tule fires, and one of the offenders was convicted and fined $50. A conviction was also secured for killing a swan on the reservation. Every effort has been made to see that the regulations are enforced as strictly as possible without arousing undue antagonism, and conditions have steadily improved during the year.

Minidoka, Idaho.—This reservation, stretching some 30 miles along Snake River, promises to be a great waterfowl preserve. Many ducks are found on the two large islands in the lake formed by the dam, and the rushes which are spreading rapidly along the newly made shore lines will in time make more and more valuable breeding places. The reservation is isolated and will probably not suffer greatly from poaching, except possibly in the spring and fall, when it will be necessary to have some patrolling done. Local sentiment is in favor of protecting the birds and neighboring settlers have volunteered assistance in seeing that they are not molested.

Passage Key, Fla.—Although the severe storms wrought considerable havoc among the birds on the island, the reservation is indeed a wonderful breeding ground. Thousands of Louisiana herons are to be found on the island, great numbers of laughing gulls and black skimmers, and numberless other birds. The reservation is in a rather precarious condition on account of the continued washing away of the shore at one end, more than 200 feet having washed away since 1905.

Pelican Island, Fla.—The breeding season in 1911 began unusually early. The first eggs were laid on October 20 and the first young hatched on November 17. The month of November was very stormy. In January the severe storms destroyed practically all the eggs and the young, with the exception of about 100 half-grown ones, so that the winter proved rather disastrous to the birds. About 2,000 old birds returned to the reservation in February and nesting began again on March 9. On the 1st of April there were some 550 nests with eggs and hatching began on the 13th. Nearly 100 visitors stopped at the reservation during the winter and spring.

NATIONAL BISON RANGE.

With the 10 calves born this spring, the buffalo on the National Bison Range have now increased to 81, making an increase of 44 over the original number placed on the range in October, 1909. The only loss among the buffalo was one old cow. As it was found that the beaver had all disappeared from Mission Creek, arrangements were made to procure some stock from the Yellowstone National Park, and it is expected that a few animals will be transferred next autumn. In March, 5 elk were shipped from Jackson Hole, Wyo., but 2 of these died from injuries received while en route. The antelope on the range have become somewhat scattered, but 5 were seen recently near headquarters.

ELK IN JACKSON HOLE.

The work of caring for the elk in Jackson Hole was continued through the winter in cooperation with the State authorities of Wyoming, and plans for the transfer of small herds to suitable locations elsewhere were successfully carried out. Important data were collected on the life history and distribution of the species, with a view to permanently improving the conditions which have prevailed in recent years. Feeding began on January 14 and continued until April 15. During these three months 920 tons of hay were fed, of which 760 were furnished by the department and the balance by the State. A greater number of elk were fed in March than at any other time, owing to the unusually severe weather, and during one week about 4,000 head were provided with food. In all, it is estimated that about 7,250 elk were fed during the winter.

On February 12, the first consignment, consisting of 22 head of young elk, was shipped to the Sundance National Forest near Spearfish, S. Dak. During March, 10 elk were transferred to the Fish Lake National Forest in Utah; 15 to the Billy Meadows, on the Wallowa National Forest in Oregon; 8 to the Wichita Game Preserve, Okla., in cooperation with the Forest Service; 5 to the National Bison Range, Mont.; and 3 to the city park at Boulder, Colo. The State warden arranged for the transfer of more than 100 head, chiefly calves, to Laramie Peak, Encampment, and other points in the State. The losses consequent on making these transfers were comparatively small. The shipment to the Billy Meadows reached its destination in safety and attracted much attention all along the route.

In cooperation with the Forest Service a census was made of the elk just before they left their winter feeding grounds, and it was estimated that about 17,260 wintered in Jackson Hole and vicinity this season. The total loss was 716, and of the survivors 1,700 were calves.

At the request of the Department a similar census was made by the superintendent of the Yellowstone National Park, and the total number which wintered in the northern part of the park and along the northern boundary was found to be about 30,100. These figures show that the total number of elk in Jackson Hole and the park is in reality somewhat less than 50,000.

ANTELOPE.

The condition of antelope in the West demands serious consideration and well-directed effort to prevent the species from becoming extinct in several States in which it was formerly abundant. It is not too much to say that the antelope is in greater danger of extermination than any other kind of American big game. The Yellowstone Park to-day contains less than half as many antelope as it did four years ago, and not a single National game refuge has thus far been established in a region where antelope still remain. Attempts to stock the bison range in Montana and the Wichita preserve in Oklahoma have not thus far met with much success. Twelve animals were sent to each of these preserves in the winter of 1910–11. Sev-

eral of those on the bison range and on the Wichita preserve have died. Efforts to secure additional animals for these preserves during the past year have failed. There should be herds of at least 25 head each on the bison range and on the Wichita preserve; strong nucleus herds on the Niobrara Bird Reservation in Nebraska and on the Wind Cave National Park in South Dakota. More important still would be the establishment of a suitable preserve, especially for antelope, in the antelope country. Provision for such a refuge is contained in a bill now pending which authorizes the establishment of the Snow Creek Antelope Range in Montana.

Thus far more effective protection seems to have been accorded the antelope on the private ranges in the Southwest than under either Federal or State auspices. In order to ascertain the condition of these antelope a systematic effort was begun last autumn to find out the location, size, and present condition of the various small bands in western Oklahoma, Texas, and eastern New Mexico. A considerable area in these States was covered by a representative from the Department and much valuable information procured. It is planned to continue this investigation as opportunity permits and extend it to other parts of the West in order to secure data necessary for ascertaining the true condition of antelope in the Western States.

GAME PROTECTION IN ALASKA.

At the close of the fiscal year new regulations were issued under the Alaska game law to afford additional protection to deer and walrus, prevent the excessive traffic in moose on the Kenai Peninsula, and to suspend deer hunting on five islands in southeastern Alaska, thus practically making them game refuges. The suspension of the sale of venison in 1911 has been continued through the season of 1912. Through cooperation with the Secretary of the Treasury, special instructions were given to the revenue cutters patrolling Bering Sea to insure a strict enforcement of the law protecting walrus.

Under the appropriation of $15,000 for the protection of game, wardens appointed by the governor were stationed at several of the more important points. The annual report of the governor, setting forth in detail the enforcement of the law, was published by the Survey as Circular 85. Sixteen permits were issued for the collection of specimens for scientific purposes or for exhibition.

INFORMATION CONCERNING GAME.

Through cooperation with the Forest Service, comprehensive data were collected for the first time regarding the number of big game animals killed on the various national forests, and as these forests include the principal hunting districts in the western States, the data thus collected furnish a practically complete basis for estimating the total number of big game killed in several of the western States. In addition, two representatives of the Bureau were detailed for some time in the summer and early autumn—Mr. D. C. Nowlin, in Idaho and eastern Oregon, to collect definite information concerning antelope and deer; and Mr. A. C. Cooper, in western Texas and eastern

New Mexico, to collect similar information regarding antelope and to examine certain locations suitable for game refuges. Mr. E. W. Nelson, during a visit to Arizona, collecting information regarding the proposed refuge on one of the national forests in that State.

The index of game legislation has been almost completed. During the year the laws of Maine, Massachusetts, New Hampshire, Rhode Island, Connecticut, Pennsylvania, and most of those of New York were indexed. At the present time the only gaps in the index are a few years in New York, Maryland, and North Carolina. The work had advanced to a point, early in the year, which warranted the publication of a summary of some of the more important provisions under the title "Chronology and Index of American Game Protection from 1796 to 1911."

Much time has been devoted to correlating, summarizing, and preparing for ready reference the material on game protection collected during the past decade. Summarized tables showing the protection accorded certain species of game birds at 10-year intervals from 1850 to 1910 have been prepared. Data on the protection of migratory birds have been summarized and information brought down to date on the subject of hunting licenses, national and State game preserves, bag limits, game commissions, and similar topics concerning which frequent requests for information are received. As in several previous years, the data concerning the number and details of fatal hunting accidents were collected. These data show a regular increase in the number of fatalities in the United States from year to year, but it is believed that a certain proportion of these accidents can be obviated by special legislation.

The usual annual game publications were issued, including the "Directory of Game Officials" and "Summary of the Game Laws for 1911."

In order to meet the demand for information regarding various national bird and game refuges, data were collected and arranged for publication on the various national reservations which can be utilized for the preservation of wild life, including national parks, military parks, game preserves, bird reservations, fur-seal and lighthouse reservations, and such portions of the national forests as have been made State game preserves. The date of establishment, location, and area of each reservation were brought together for a circular, and this information was supplemented by a brief bibliography of the publications on the fauna of the reservations.

PLUMAGE.

Every effort has been made to stop the sale of plumage of certain birds, particularly herons, which have been slaughtered for the millinery trade in recent years. Information regarding the distribution of the egrets has been collected and published in the form of a brief circular for the use of State officers. Assistance has been rendered wherever possible, and in Ohio the attention of the State game commission was brought to the illegal sale of plumage in Cincinnati, which resulted in successful action against six of the largest millinery stores in the city. In Florida information has been collected regarding plume hunting in the Everglades and the surreptitious shipment of aigrettes from certain points in the State. In Missouri

and Pennsylvania also steps have been taken to restrict the traffic, and evidence has been collected, and cases are now pending in the courts of both of these States.

INTERSTATE COMMERCE IN GAME.

During the past year the Bureau has given close attention to the enforcement of sections 242 and 243 of the criminal code relating to the transportation of game in interstate commerce. The revised code in effect January 1, 1910, amended section 242 by providing that game shipped in interstate commerce in violation of the law of the State from which shipped was unlawful. This has materially assisted in the securing of evidence necessary to warrant proceeding in the Federal courts.

In every instance the active cooperation of the State authorities, where a State warden service is maintained, has been secured, and to the assistance given the representative of this Bureau by the Pennsylvania Game Commission and the State Game, Fish, and Forestry Warden Department of Michigan, and the warden departments of Minnesota, Wisconsin, and Illinois is attributable much of the success which has resulted in these States.

MICHIGAN.—During the entire month of October, 1911, an assistant from this Bureau investigated game conditions in the Upper Peninsula of Michigan, giving particular attention to the smuggling of game out of the State. Under orders of the Michigan warden all deputies were directed to assist our representative, and as a result many violators were apprehended and infractions of the State laws punished in the State courts. A number of cases involving attempted export of game from the State have been reported for prosecution in the Federal court for that district, and of these three have already been disposed of by pleas of guilty.

PENNSYLVANIA.—The inspection during the month of February last of the game markets of Philadelphia, Pittsburgh, and Harrisburg by the secretary of the Pennsylvania Game Commission and an assistant detailed from this office resulted in the securing of evidence sufficient to warrant criminal proceedings against shippers in Maryland, Kentucky, West Virginia, Virginia, and North Carolina. It will be noticed that in none of these States are they provided with an efficient warden service, in nearly every instance the enforcement of the game laws being left entirely to local officers. It should be added, however, that the discovery by this Bureau of evidence disclosing the shipment during the months of November and December last of more than 6,000 quail from one point in Kentucky resulted in the immediate enactment of a modern, up-to-date game commission bill providing for salaried wardens and supported by a general hunting-license system.

VIRGINIA.—Considerable time was spent in the coast region of Virginia, in the counties of Princess Anne, Norfolk, Northampton, and Accomac, investigating waterfowl conditions, and it was found large numbers of black mallards were annually trapped on the low marshy lands near the coast and shipped to the game markets of other States. A number of prosecutions were begun both against the ship-

pers and the transportation companies receiving such game for shipment. However, when the first case was tried in the Federal court at Norfolk a ruling of the court regarding the State law and the authority of boards of supervisors to change the section regulating export from the State in their respective counties made it inadvisable to proceed with the trials, and, upon motion of the United States attorney, they were all dismissed.

ARKANSAS.—Conditions are improving in the State generally, and a number of prosecutions in the Federal courts at Helena and Jonesboro, including the imposition of jail sentences against a number of persons residing near Big Lake, charged with interfering with a deputy United States marshal traveling on official duty, has resulted in greatly improved conditions in that part of the State.

INTERSTATE SHIPMENTS BY MAIL.

Complaints have been filed with this Bureau that protected fur-bearing animals are being shipped in interstate commerce by mail. With the cooperation of the Post Office Department an effort is being made to discourage this practice, and one case has already been reported for prosecution.

OUTLINE OF WORK FOR 1913.

ECONOMIC ORNITHOLOGY AND MAMMALOGY.

During the year 1913 the Division of Economic Investigations will continue the work of repressing rodents in connection with reforestation projects in the National Forests of Colorado, Washington, Arizona, Montana, Idaho, and California. Owing to the success met with in killing prairie dogs in the Cochetopa and Pike Forests of Colorado and the Coconino Forest of Arizona during 1912, the work will be extended in these Forests and carried to others. Preliminary work in the control of ground squirrels on public lands in California in connection with the suppression of bubonic plague will be carried on. Experiments in rearing fur-bearing animals will be undertaken. Examination of the food of wild ducks will be continued, and that of the crow, English sparrow, and swallows will be commenced. A report, in cooperation with the island authorities, will be prepared on the economic habits of Porto Rican birds. Investigation of the relation of birds to the cotton boll and alfalfa weevils will be continued. Experiments will be carried on to devise means for controlling pine mice and rabbits in orchards and nurseries. Field work to study methods of control of moles and gophers in the Puget Sound region will be taken up. Demonstrations to determine economic methods of controlling crawfish as crop destroyers in the South will be continued.

GEOGRAPHIC DISTRIBUTION.

During the coming year a comparatively small amount of field work will be undertaken, owing to lack of funds. Office work will be continued in mapping the distribution of birds and mammals

and in the collection of data on the habits and migration of birds. A report will be completed for publication on a trip made by E. A. Preble in British Columbia in the summer of 1910. The report on the birds of Texas will be completed for publication and final reports on the biological survey of New Mexico will be published. A final report on the survey of Wyoming, so far as the work has gone, will be prepared.

A detailed report on Lower California, with map, will be completed for publication. The present international interest in this region renders this report especially important and opportune.

GAME PRESERVATION.

Several new projects will require attention during the early autumn of 1912. Under the appropriation of $26,000 for establishment of a national game preserve on the Wind Cave National Park, in South Dakota, arrangements will be made for the purchase of lands controlling the necessary water supply and also contracts made for fencing a portion of the park for the herd of buffalo to be presented by the American Bison Society. Efforts will be made to place the winter feeding of elk in Jackson Hole on a more permanent basis by the acquisition of a refuge, where hay can be produced and fed during the winter. Efforts will be renewed to obtain authorization and an appropriation for fencing the Niobrara Reservation, in Nebraska, so that it may be used as a big-game preserve. It is planned to send an expedition to Laysan early in the winter to guard against poaching and also to effect a reduction in the number of rabbits on the island. Warden service will be installed on several additional reservations, including Forrester Island, Alaska; and Minidoka and Deer Flat, Idaho. Efforts will be made to insure a stricter compliance with the Federal law governing interstate shipments of game, particularly in the States of Pennsylvania, Virginia, North Carolina, Kentucky, Illinois, and Arkansas, and also to extend the work to traffic in plumage.